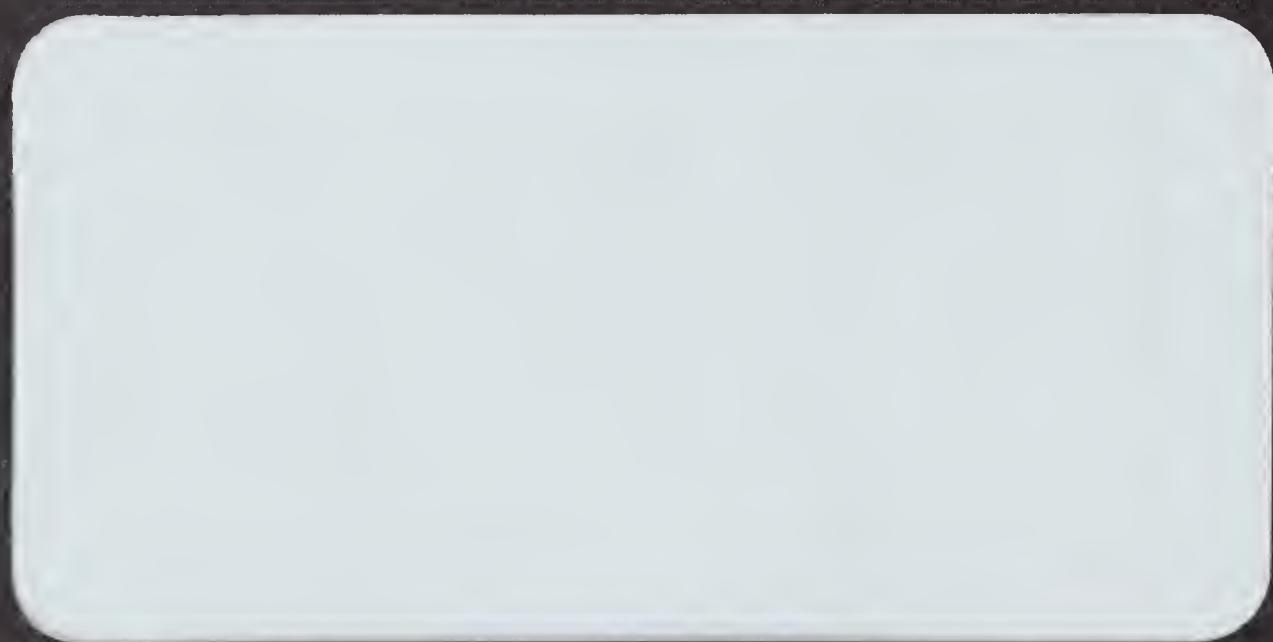


**ASSESSMENT OF IBM'S APPLICATION SYSTEM
FOR
BOND CORPORATION**

INPUT

ZBON
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5/88

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OUTLINE

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ASSESSMENT OF IBM'S APPLICATION SYSTEM FOR BOND CORPORATION

4/28/88

I. Objective

INPUT on behalf of Bond Corporation has investigated IBM's Application System (AS) relative to its planned use by Heileman Breweries, a subsidiary of Bond. The investigation focused on the capabilities of the product, performance characteristics, and experience of a small number of users of AS.

II. Approach

INPUT's assessment is based on the knowledge of the product, both in its U.S. and U.K. staff, contacts with IBM and, most importantly, interviews with six firms currently using AS.

Each of the interviews was with the manager within the Information Systems function directly involved with the implementation of AS. In two instances the manager of operations was also interviewed. The interview addressed the following topics:

- Installation environment
- Length of use
- Capabilities of AS
- Performance experience
- Use (Application) of AS

All of those interviewed had been using AS for at least a year. They were running Release 4 and some were preparing to install Release 5.

The six companies included four 43XX users and two 3090 users. The companies included a utility, a furniture company, an insurance firm, a Fortune 500 size dairy company, and two services companies.

III. Product Considerations

This section is not intended to describe AS in detail, but to report findings concerning the products installed base, general characteristics and other items of note relative to Heileman's possible use.

Application System was developed by IBM in the United Kingdom. It is supported by a software development lab in Warwick, England and is far more popular in Europe than the United States.

- * INPUT estimates the European installed base to be in excess of 1000, while the U.S. installed base is only 140.
- * This installed base can be compared to FOCUS (Information Builders, Inc) with a corresponding U.S. installed base of over 1000. FOCUS is believed to be the Fourth Generation Language (4GL) with the largest IBM (43XX and 30XX) installed base.
- * AS's level of popularity is closer to that of Nomad II, a 4GL that has been in use in the timesharing arena for many years, but like AS was a late entry in the software products market.
- * Of the 140 reported installations in the U.S. approximately 78 are on 43XX size computers and 62 are on 30XXs.

The relatively low popularity can be attributed to AS being an IBM application development tool, an area where IBM's reputation is not strong; its development in the U.K. with a low US support level; and its late entry in the U.S. 4GL market.

One of the attractions of AS is that it includes some application modules within the base product. The standard AS product contains both a statistical package and a project management application. To a smaller IS function the ability to obtain more than a 4GL provides a strong financial inducement.

- * The statistical package was described as doing all the typical user will ever need, thus it is an affordable alternative to SAS.
- * Two of the companies interviewed had justified AS, at least to a major degree, on the basis of the project management module and were using it within IS.

AS is considered an application development tool as opposed to an end user tool. The dominant use in the companies interviewed is by the application development staff. Either the end user is offered another product or is using AS in a controlled fashion after much training.

- * This orientation is supported by the way in which IBM originally positioned the product.
- * The existence of the project management module can be explained as an inducement to the application development manager to acquire and use AS.

AS's principle data interfaces are to SQL, DB2 and flat file structures (VSAM). It does not directly interface to any hierarchical data base structures (DL/1, etc). This is probably a factor in its low popularity and in the reported performance concerns.

Product cost apparently varies based on size of computer. Purchase prices of \$70,000 for 43XX versus \$115,000 for a 3090 site were noted. In addition apparently AS is marketed under the IBM "Solution Packs" concept in conjunction with DisplayWrite 4 and Profs. The result is a cost savings if all products are desired.

IV. Performance Considerations

Application System operates in both MVS and VM environments. The comments concerning performance did not vary significantly from VM to MVS.

Of the six users interviewed four are using AS on a 43XX size computer and two on a 3090. Three are using it in a VM environment and three under MVS. Usage levels varied from five to as high as twenty-five concurrent users with plans to go much higher.

Five of the six companies interviewed indicated performance was a concern. In two instances the comments were verified by interviewing the data center operations manager. All have been using AS for over a year and have no plans to restrict or stop using AS. In fact all companies planned to expand use of AS.

- * A meter tracking system developed by a utility can have 20 or more concurrent users on an AS application that updates a DB2 data base. Even on a 3090 there is a measurable utilization impact. However, it is likely DB2 is contributing to the performance situation.
- * One company is allowing end users to extract data from fairly large (100,000 plus records) files with AS on a 4381 under VM/CMS. They have had to turn this type of request into essentially a single thread batch process. The end user can go back to other AS activities, but must wait two to three hours for the data extract.

- * AS works with GDDM for graphics. One client installed it with GDDM and had major performance problems. After removing GDDM performance was acceptable.
- * One company with 20 to 25 concurrent users, including 10 dedicated programmers, has had AS consume 40% of the available cycles from a 4381 running VM, but did not feel the performance degradation was excessive. They operate VSE under VM as well and their current performance issues are more VSE related.
- * There were no reported installations on a 9370, however, the 9370 will support AS under VM. Given the departmental and network node orientation of the 9370 this would only seem appropriate in where the number of concurrent users was less than 10..
- * Each company indicated tuning was part of the AS story and that finding a local IBM AS expert can be a challenge.

The performance story on AS is very similar to that of most 4GL products. It is a concern, AS is an interactive environment and AS was not designed for end users.

V. Product Use

The consensus of those interviewed is that AS is an application development product that appeals to the development staff more than the end user. It was created by IBM to serve IS and has been adapted for end user use by IBM simply to have a product to sell.

The attractions include the integrated project management package that was the justification in two instances for the purchase of AS. The fact that this capability is included further indicates that AS was designed for the application development staff. These two users are satisfied with the project management module and are using it to control their development process.

Only two of the users commented on the statistical module. Both felt it increased the attractiveness of AS since it eliminates the requirement for SAS (SAS Institute) or the equivalent. There was a negative comment about the terminology used in the statistical module. Apparently it differs from that used by SAS.

In its survey INPUT found a variety of uses:

- * As mentioned two are using it for project management of application development projects.
- * Three are building actual applications including: a meter tracking system for a utility, a production planning and scheduling system for a dairy, and an order entry application.

- * Three are using AS for end user report generation and on-line query. However, the user learning curve seems to be a problem. Two companies have developed interactive procedures within which the end user can perform his desired task, but in a constrained environment. AS seems to be a little powerful for common end user use.

It is noted that no true marketing/distribution analysis applications were found in the interview sample.

VI. Use of Application System by Heileman

INPUT's knowledge of Heileman's planned use of AS is very limited. It is believed:

- * That the early focus will be in the marketing and distribution systems areas
- * That the use is intended to be by end users in an adhoc versus a structured application approach.
- * That the initial number of concurrent users would presumably be small, but demanding in terms of response time.
- * And that the files and data may be quite extensive. Apparently Heileman markets a large number of products (over 650) through an expansive independent distribution network.

The result could be very sizeable calculation based analyzes requiring significant on demand processing power. This would raise concerns about Heileman's using AS on a 4381 let alone a 9370. Certainly the use of AS would not justify a 3090, but if Heileman is planning to move toward an IBM environment and AS is purchased, the number of users will grow and application development may begin to look to AS as a productivity tool.

While little has been said concerning alternative products to AS it is believed that FOCUS and perhaps other 4GL products have a better performance reputation. And as a rule they have improved data accessing interfaces and ease of use reputations. INPUT would suggest that some inquiry be made prior to a final decision. There is nothing inherent in AS that makes it more ideal than other products with better support.

VII. Conclusions and Recommendation

INPUT offers the following conclusions and summary thoughts.

- * AS will run under VM or MVS environments on 9370, 43XX and 30XX computers. It is most commonly found in a VM environment.
- * The installed base is relatively small for a 4GL and appears to be more often used in a modest versus large IS environments. There are more 43XX installations than 30XX.
- * Performance is sensitive to the number of concurrent users, however, a level of ten to twenty can be supported by a 4381.
- * Performance is quite sensitive to the size of the file being accessed (queried). And AS only directly interfaces to SQL, DB2 and VSAM.
- * AS was developed as and remains an application developers environment first and an end user environment second. Those who use it for end user report writing and application development have found a significant training requirement and a need to set up procedures to control (guide) end user activity.

Recommendation

Based on INPUT's very limited knowledge of Heileman's use of AS and the knowledge gained from this assessment is recommended that alternative software products warrant some consideration. Presuming such an investigation has not already been made it should include:

- * FOCUS (from Information Builders, Inc) and Ramis II (from On-Line Software International, Inc.), the most popular generalized 4GLs that include increased ease of use, better vendor support and improved data accessing techniques.
- * EXPRESS (from Information Resources, Inc.), a relatively popular 4GL that was developed for and is most commonly used for, marketing type applications.

